



ATTENUATED HUMAN-BOVINE CHIMERIC PARAINFLUENZA VIRUS (PIV) VACCINES

ABSTRACT OF THE DISCLOSURE

5 Chimeric human-bovine parainfluenza viruses (PIVs) are infectious and
attenuated in humans and other mammals and useful individually or in combination in
vaccine formulations for eliciting an anti-PIV immune response. Also provided are
isolated polynucleotide molecules and vectors incorporating a chimeric PIV genome or
antigenome which includes a partial or complete human or bovine PIV "background"
10 genome or antigenome combined or integrated with one or more heterologous gene(s) or
genome segment(s) of a different PIV. Chimeric human-bovine PIV of the invention
include a partial or complete "background" PIV genome or antigenome derived from or
patterned after a human or bovine PIV virus combined with one or more heterologous
gene(s) or genome segment(s) of a different PIV virus to form the human-bovine chimeric
15 PIV genome or antigenome.